Supplementary material

The full protocol for the SPIN COVID-19 Cohort and the present study, which provides more detail on the methods and measures, is available online (https://osf.io/62vut/).

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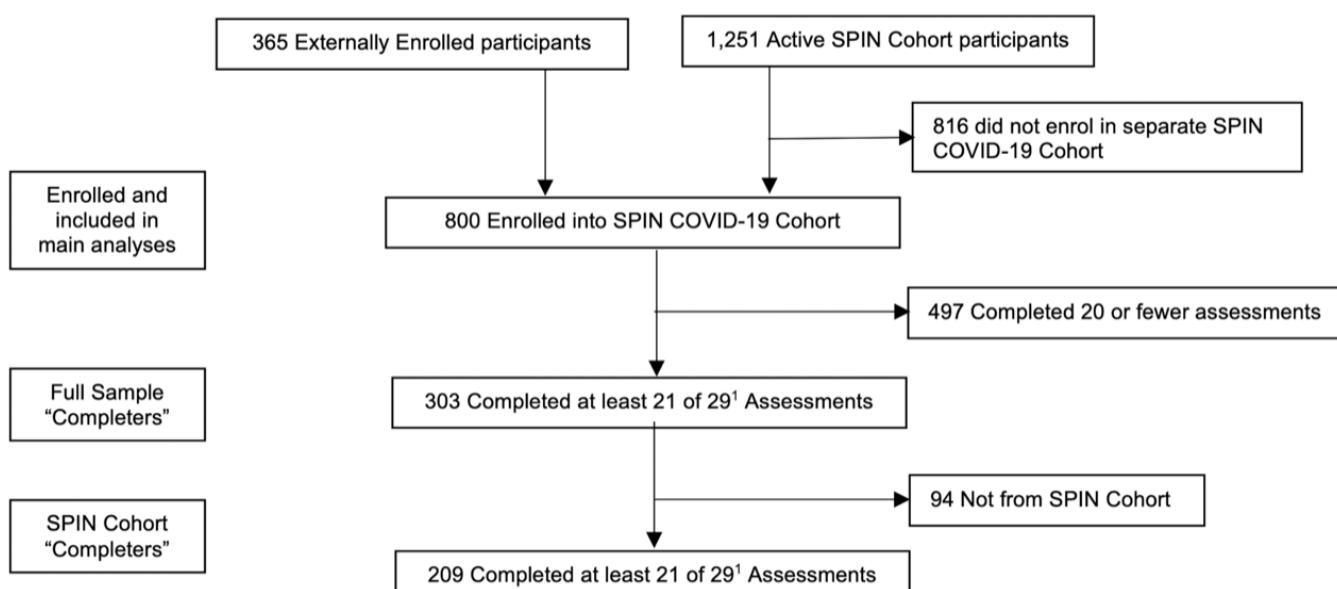
Supplementary Fig. S1. Participant flow chart.
[1]Note: Assessment 21 missed due to technical issues. Assessment N = 28.

Supplementary Table S1. SPIN COVID-19 Cohort characteristics of full sample and by SPIN cohort membership.

Variable	Full SPIN COVID-19 Cohort (N = 800)	SPIN Cohort (N = 435)	Non-SPIN Cohort (N = 365)
Sociodemographics			
Age in years, mean (SD)[a]	55.6 (12.6)	57.0 (12.6)	53.3 (12.5)
Female sex, N (%)[a]	719 (90.3)	385 (88.5)	334 (92.5)
Education in years, mean (SD)[b]	15.8 (3.4)	15.9 (3.5)	15.6 (3.3)
Living Alone, N (%)[c]	134 (17.3)	80 (18.7)	54 (15.6)
Employed (full or part time), N (%)[d]	326 (41.1)	198 (45.5)	128 (35.1)
Race/ethnicity, N (%)[e]			
White	655 (83.0)	360 (82.9)	295 (83.1)
Black	53 (6.7)	38 (8.8)	15 (4.2)
Other	81 (10.3)	36 (8.3)	45 (12.7)
Country, N (%)[f]			
Canada	194 (24.6)	97 (22.5)	97 (26.7)
United States	255 (31.8)	128 (29.4)	127 (35.0)
France	206 (25.8)	156 (36.6)	50 (13.8)
United Kingdom	68 (8.5)	50 (11.5)	18 (5.0)
Other	71 (8.9)		71 (19.5)
Disease characteristics			
Time since diagnosis in years, mean[g] (SD)[e]	11.7 (8.0)	12.2 (7.8)	11.0 (8.2)
Diffuse disease subtype, N (%)[h]	322 (41.1)	170 (39.1)	152 (43.6)
Interstitial lung disease, N (%)[i]	---	148 (35.2)	---

Due to missing data: [a] N (COVID) = 796, N (non-SPIN) = 361; [b] N (COVID) = 786, N (SPIN) = 432, N (non-SPIN) = 354; [c] N (COVID) = 774, N (SPIN) = 427, N (non-SPIN) = 347; [d] N (COVID) = 794, N (non-SPIN) = 359; [e] N (COVID) = 789, N (SPIN) = 434, N (non-SPIN) = 355; [f] N (COVID) = 798, N (non-SPIN) = 363; [g] N (COVID) = 771, N (SPIN) = 424, N (non-SPIN) = 347; [h] N (COVID) = 784, N (non-SPIN) = 349; [i] N (SPIN) = 195. Interstitial lung disease was only collected in the SPIN Cohort.
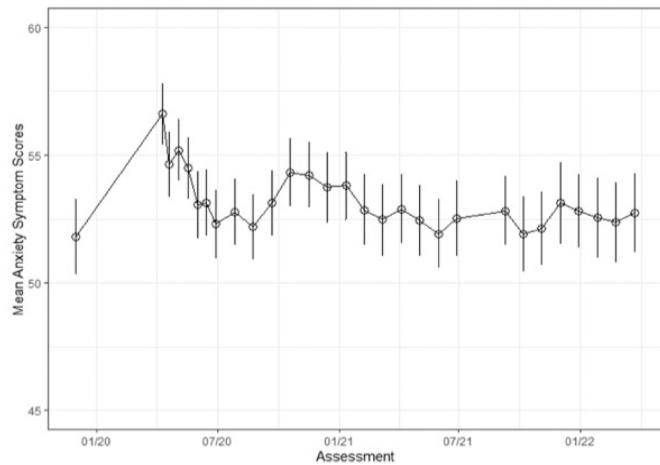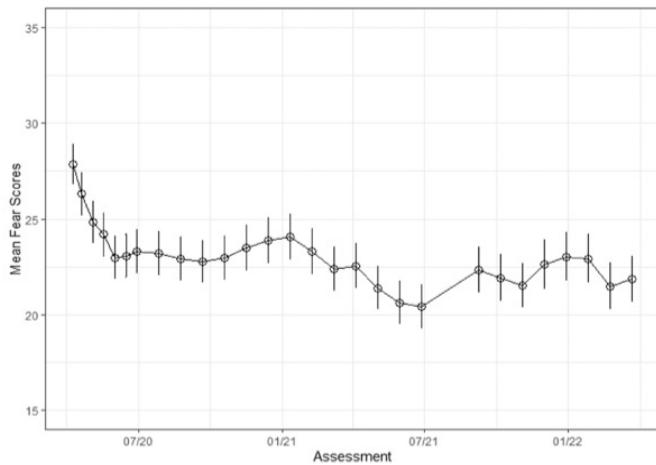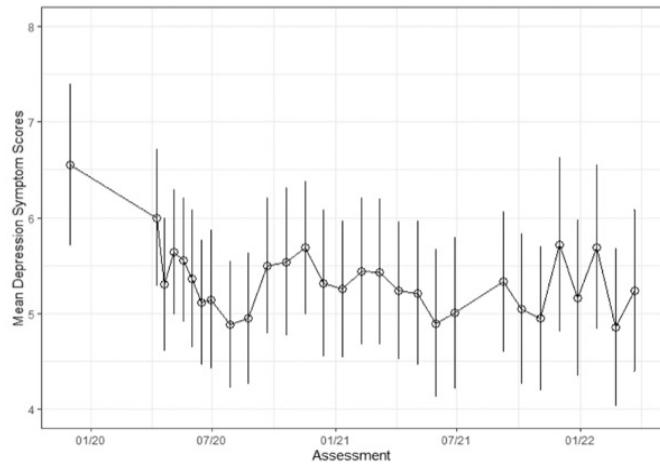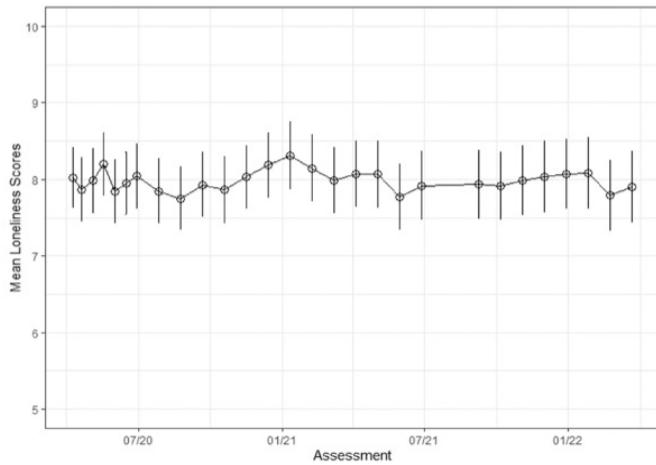

Supplementary Fig. S2. Completers mean anxiety, depression, fear, and loneliness scores.

Supplementary Table S2. Anxiety and depression means and standard deviations at all assessments for SPIN Cohort sample.

Assessment	Anxiety symptoms			Depression symptoms		
	Full Sample[1] Mean, SD	N	Completers Mean, SD	Full Sample[2] Mean, SD	N	Completers Mean, SD
Pre-COVID-19	52.57, 10.34	209	51.80, 10.70	6.72, 5.67	193	6.55, 5.95
1	57.42, 8.86	209	56.60, 8.77	6.41, 5.41	209	6.00, 5.24
2	55.28, 8.92	198	54.64, 8.93	5.74, 5.00	196	5.30, 4.9
3	55.01, 8.66	200	55.19, 8.60	5.86, 4.75	199	5.64, 4.66
4	53.86, 8.84	199	54.48, 8.56	5.56, 4.80	199	5.56, 4.62
5	53.42, 9.25	200	53.04, 9.44	5.39, 4.79	200	5.37, 5.15
6	53.34, 9.17	202	53.13, 9.38	5.06, 4.53	202	5.11, 4.72
7	53.13, 9.18	194	52.29, 9.49	5.34, 5.03	194	5.14, 5.13
8	53.12, 9.31	199	52.76, 9.29	5.23, 4.74	199	4.88, 4.73
9	52.37, 9.34	197	52.18, 9.03	5.05, 4.72	197	4.95, 4.82
10	53.90, 9.43	202	53.12, 9.13	5.57, 5.06	202	5.50, 5.11
11	54.02, 9.36	189	54.31, 9.35	5.39, 5.24	189	5.54, 3.40
12	54.06, 9.43	196	54.22, 8.98	6.05, 5.24	195	5.69, 4.93
13	53.99, 9.95	195	53.73, 9.86	5.71, 5.24	195	5.32, 5.43
14	54.28, 9.29	194	53.80, 9.28	5.59, 5.04	194	5.25, 5.05
15	52.86, 9.92	198	52.86, 9.77	5.72, 5.42	196	5.44, 5.46
16	52.37, 9.86	194	52.47, 9.71	5.57, 5.37	194	5.43, 5.37
17	53.10, 9.51	201	52.89, 9.75	5.38, 4.82	201	5.24, 5.17
18	52.40, 9.76	202	52.43, 9.93	5.42, 5.23	202	5.21, 5.43
19	52.01, 9.68	198	51.92, 9.63	5.12, 5.41	198	4.89, 5.50
20	52.55, 10.26	178	52.52, 9.90	5.29, 5.30	178	5.01, 5.34
21[3]	---	---	---	---	---	---
22	53.49, 9.89	190	52.82, 9.48	5.84, 5.29	190	5.33, 5.14
23	52.35, 9.64	174	51.91, 9.87	5.21, 4.98	173	5.05, 5.23
24	52.11, 9.90	187	52.13, 9.89	5.07, 5.14	187	4.95, 5.19
25	53.19, 10.39	164	53.12, 10.34	5.80, 5.87	164	5.72, 5.92
26	52.82, 9.40	176	52.82, 9.64	5.15, 5.23	176	5.16, 5.50
27	53.01, 10.19	168	52.54, 10.20	5.84, 5.50	168	5.69, 5.65
28	53.06, 9.89	156	52.36, 9.79	5.51, 5.43	156	4.85, 5.20
29	53.41, 10.25	166	52.74, 10.16	5.70, 5.84	166	5.24, 5.51

[1]All imputed N = 435; [2]All imputed N = 388. SD = standard deviation; [3]Assessment missed due to technical issue.

Supplementary Table S3. Loneliness and fear of COVID-19 means and standard deviations at all assessments.

Assessment	Loneliness symptoms			Fear of COVID-19		
	Full Sample[1] Mean, SD	N	Completers Mean, SD	Full Sample[1] Mean, SD	N	Completers Mean, SD
1	8.32, 3.72	302	8.02, 3.52	27.98, 9.67	303	27.85, 9.43
2	8.20, 3.74	282	7.87, 3.57	26.17, 9.74	282	26.30, 9.48
3	7.97, 3.65	281	7.98, 3.60	24.85, 9.47	281	24.85, 9.35
4	8.02, 3.63	287	8.20, 3.50	23.75, 9.38	287	24.19, 9.58
5	7.87, 3.72	287	7.84, 3.64	23.19, 9.59	288	22.98, 9.79
6	8.08, 3.64	292	7.95, 3.55	23.05, 9.54	292	23.07, 9.88
7	8.12, 3.64	280	8.04, 3.64	23.04, 9.50	280	23.30, 9.76
8	8.05, 3.79	287	7.85, 3.69	23.24, 9.67	287	23.18, 9.91
9	7.95, 3.64	286	7.75, 3.54	22.76, 9.60	287	22.92, 9.79
10	7.98, 3.76	286	7.93, 3.65	23.49, 9.74	286	22.79, 9.55
11	8.02, 3.68	275	7.87, 3.68	23.38, 9.95	275	22.97, 9.86
12	8.12, 3.76	284	8.03, 3.54	23.79, 10.13	284	23.49, 10.13
13	8.13, 3.71	287	8.19, 3.67	23.95, 10.10	287	23.88, 10.23
14	8.33, 3.83	282	8.31, 3.77	24.20, 10.24	282	24.07, 10.26
15	8.14, 3.85	285	8.15, 3.77	23.04, 10.21	285	23.31, 10.41
16	7.94, 3.73	287	7.99, 3.70	22.22, 9.73	287	22.38, 9.95
17	8.02, 3.61	287	8.07, 3.70	22.39, 9.96	287	22.54, 10.12
18	8.02, 3.76	289	8.07, 3.76	21.35, 9.70	290	21.40, 9.81
19	7.77, 3.72	286	7.77, 3.72	20.63, 9.53	286	20.64, 9.74
20	7.90, 3.71	266	7.92, 3.72	20.50, 9.58	266	20.41, 9.55
21[3]	---	---	---	---	---	---
22	7.98, 3.82	273	7.93, 3.76	22.18, 9.75	273	22.34, 9.91
23	7.88, 3.64	253	7.92, 3.60	21.80, 9.72	254	21.93, 9.94
24	7.92, 3.70	266	7.98, 3.80	21.68, 9.59	266	21.55, 9.52
25	8.00, 3.68	238	8.03, 3.66	22.74, 10.12	238	22.64, 10.21
26	7.86, 3.61	252	8.07, 3.70	22.35, 9.84	252	23.02, 10.21
27	7.95, 3.70	243	8.08, 3.73	22.62, 10.11	243	22.93, 10.13
28	7.86, 3.65	232	7.79, 3.58	21.45, 9.34	232	21.48, 9.44
29	7.86, 3.60	231	7.90, 3.64	21.98, 9.34	231	21.86, 9.21

[1]All imputed N = 800. SD = standard deviation; [3]Assessment missed due to technical issue.

Supplementary Table S4. Completers SMD and 95% CI.

	Anxiety	Depression	Fear	Loneliness
April 2020 *vs.* Pre-COVID-19	.49 (.29, .68)	-.10 (-.29, .09)	---	---
March 2021 *vs.* Pre-COVID-19	.10 (-.09, .30)	-.19 (-.39, .01)	---	---
March 2022 *vs.* Pre-COVID-19	.09 (-.13, .31)	-.23 (-.44, -.01)	---	---
March 2021 *vs.* April 2020	.11 (-.09, .31)	.04 (-.16, .24)	-.46 (-.62, -.29)	.04 (-.13, .20)
March 2022 *vs.* April 2020	.15 (-.07, .36)	.05 (-.17, .27)	-.64 (-.83, -.45)	-.03 (-.22, .15)
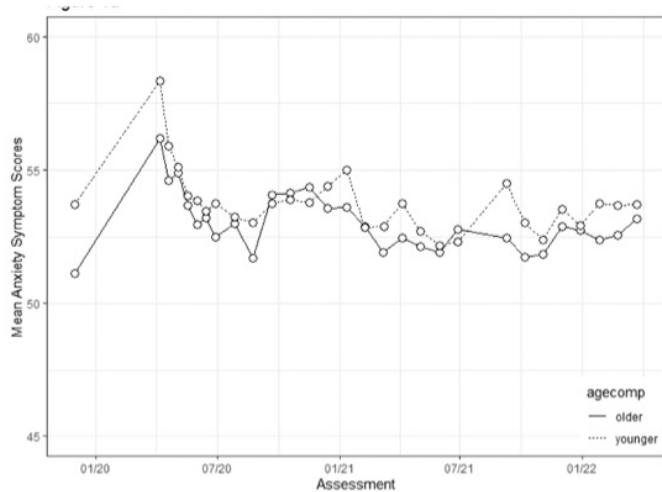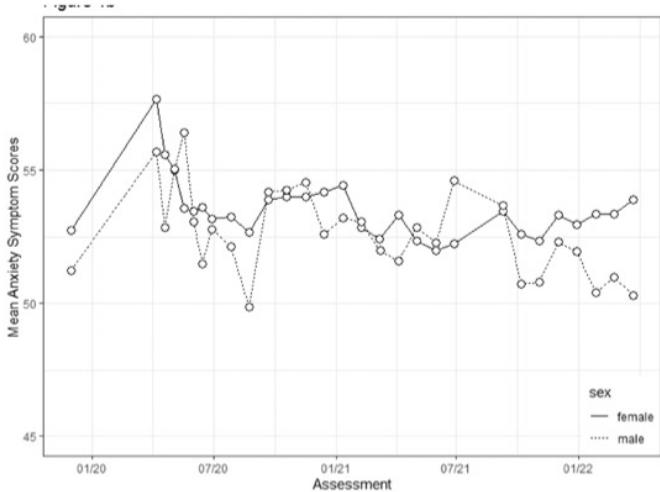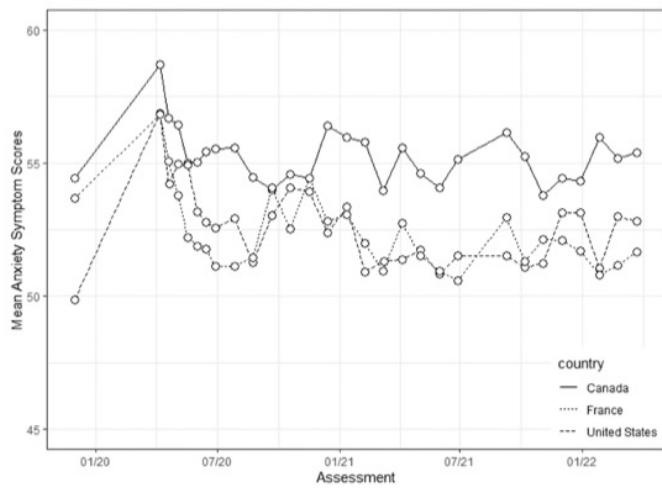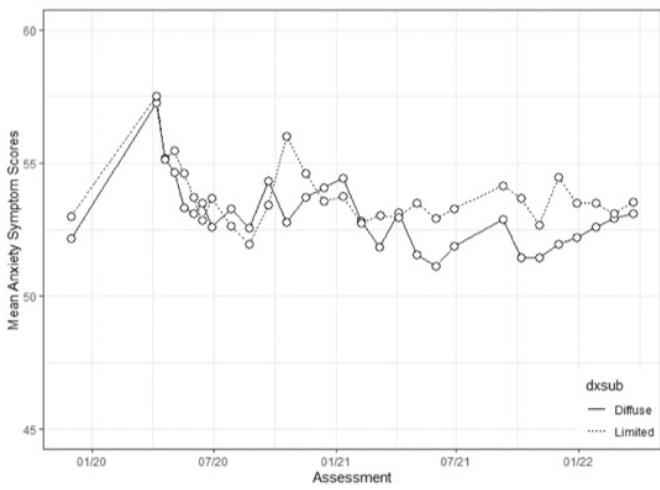
Supplementary Figures S3. Trend figures by demographic groups.
Note: Please see Supplementary Table S3 for number of participants at each time point.

Figure 4a
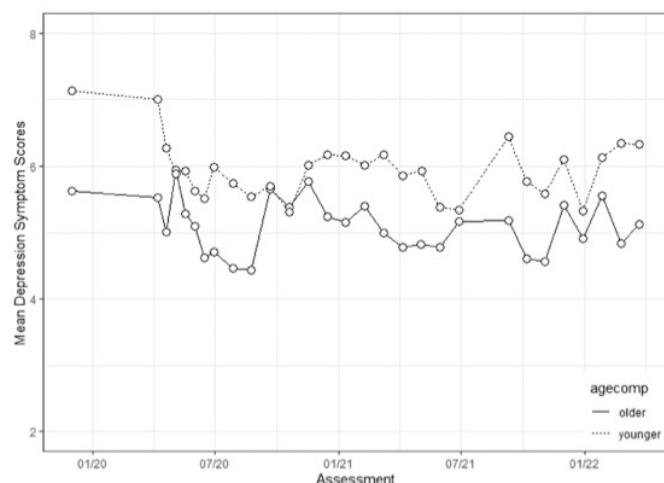
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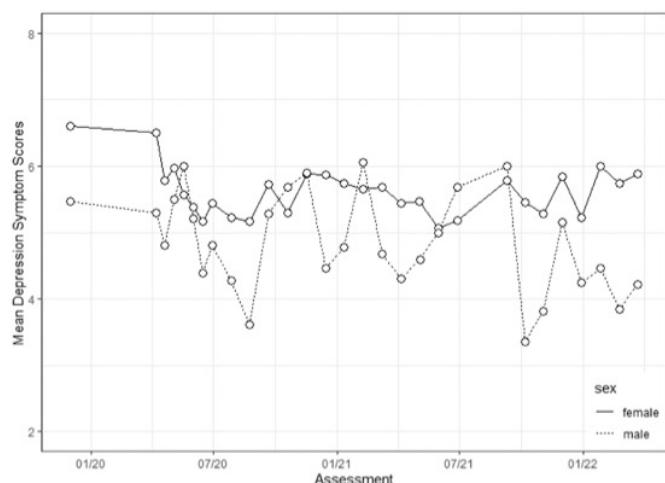
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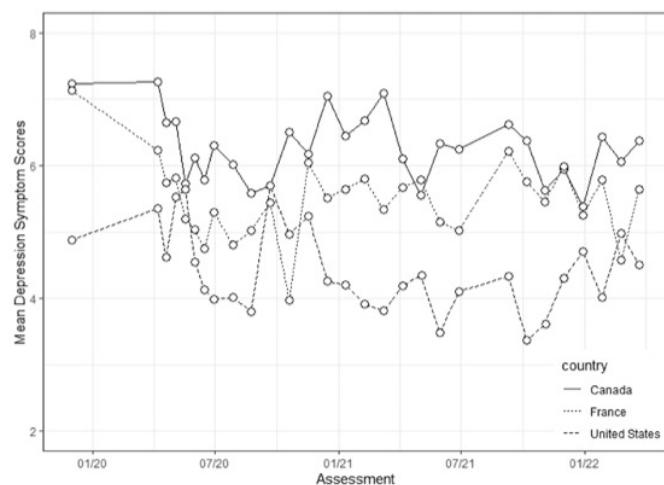
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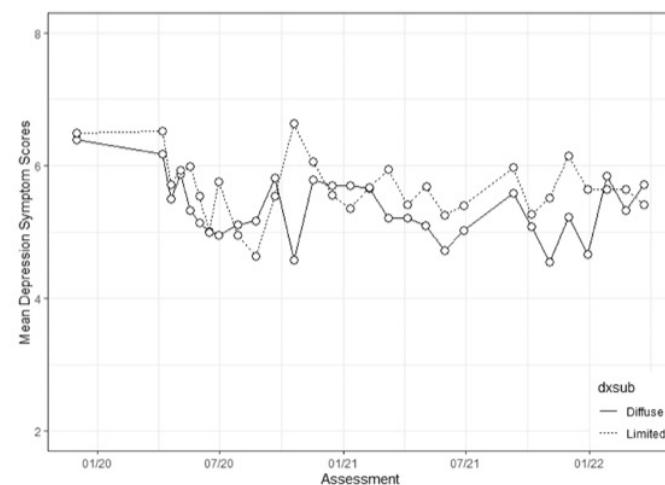
Supplementary Figures S4. Trend figures by demographic groups.
Note: Please see Supplementary Table S3 for number of participants at each time point.

Figure 5a
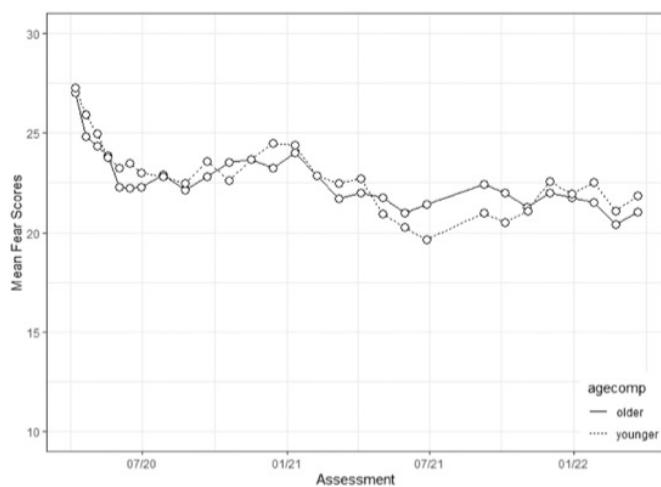
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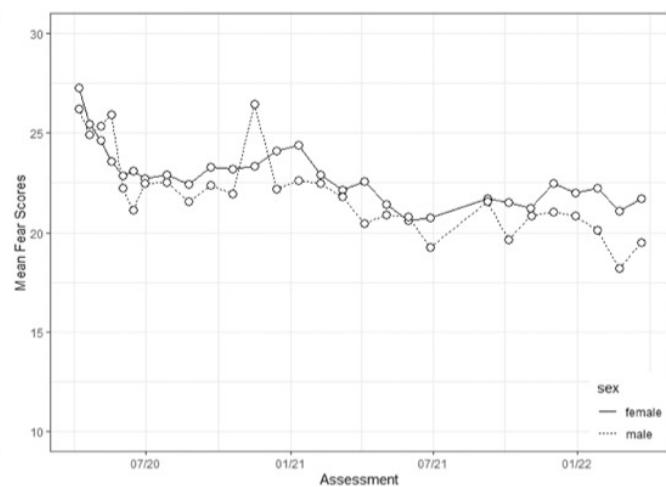
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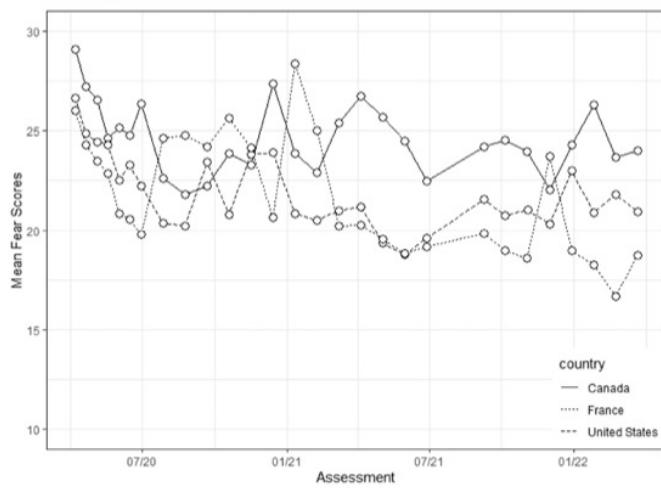
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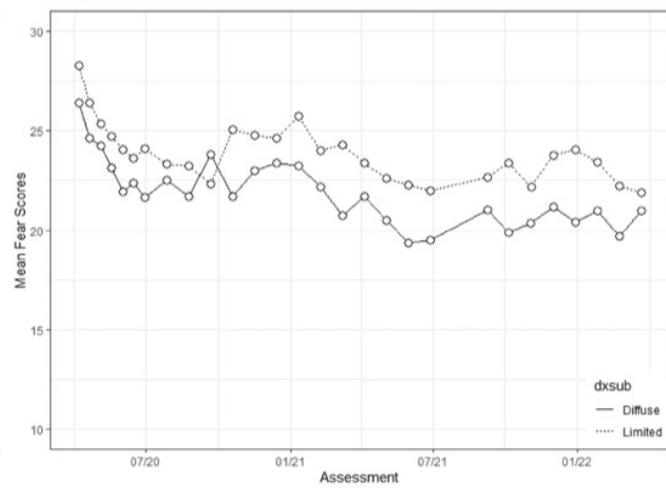
Supplementary Figures S5. Trend figures by demographic groups.
Note: Please see Supplementary Table S4 for number of participants at each time point.

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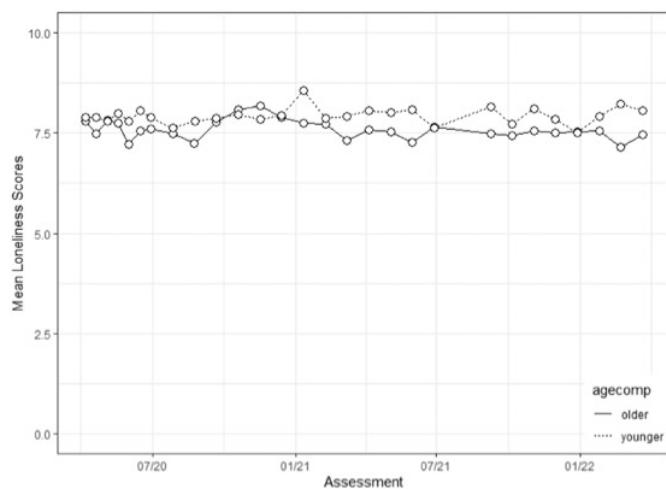
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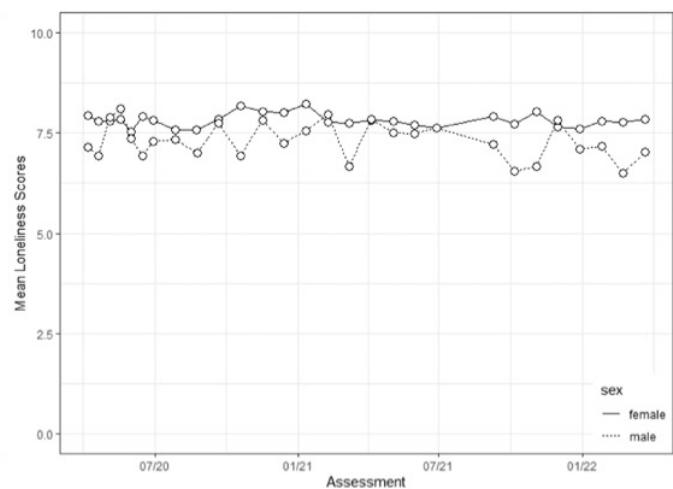
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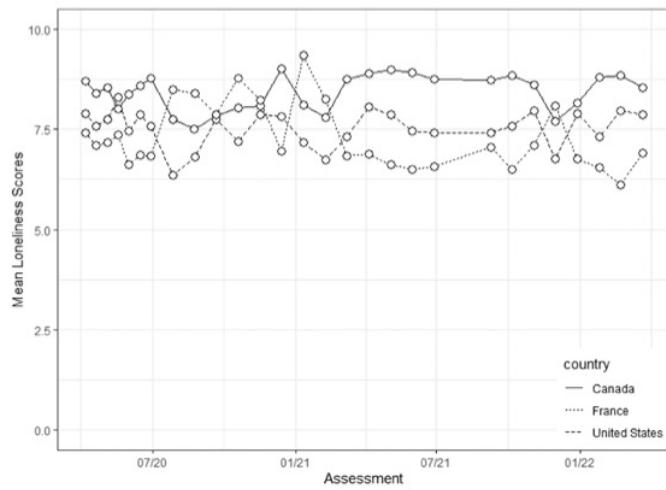
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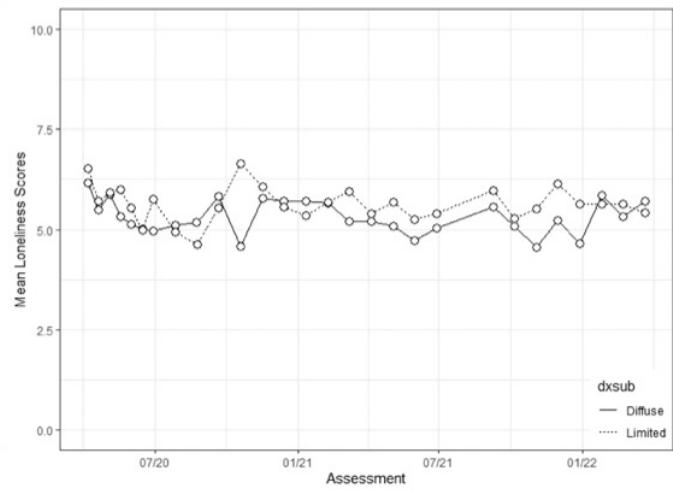
Supplementary Figures S6. Trend figures by demographic groups.
Note: Please see Supplementary Table S4 for number of participants at each time point.